



HOUSEHOLD-RELATED VARIABLES AND REPORTED ILLNESS IN STREET VENDORS AND THEIR CHILDREN IN A SOUTH AFRICAN CITY

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INTRODUCTION

Increasing global urbanization has been accompanied by a burgeoning informal economic sector in cities of poor countries as a functional response to poverty in the face of growing dysfunction of "formal" economic processes.¹ The informal economy provides employment opportunities to a considerable proportion of the world's poor and the International Labor Organization's (ILO's) World Employment Program estimated that employment in the informal sector is around 60%–70% of total employment in Nairobi and Kumasi; 53%–58% in Bogota; 50% in Jakarta and Lagos; 43% in Calcutta, Bombay, and Ahmedabad; and 30% in Abidjan.² Our increasing understanding of the "informal" sector since Hart's description in the 1970s has been accompanied by a growing realization of the contribution made by this sector to the global economy.³ In South Africa, it has been estimated that the informal sector accounted for approximately 5%–8% of the gross domestic product in 1985.⁴

Women have been involved extensively in the informal economy, and it is estimated that, while globally women account for 25% to 30% of the labor force,

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this figure is considerably higher in some countries. An estimated 77% of all urban employed women work in the informal sector in Pakistan, while more than 60% of women in urban centers in Nigeria are so engaged.* There has been a worldwide increase in the participation of women in the informal sector. However, the nature of women's participation varies from region to region. While women in Africa tend to be involved in selling in markets and streets, women in Pakistan tend to work in small-scale service industries that are either individually or family owned. It is reasonable to expect, therefore, that the health risks of women working in the urban informal economic sector also would vary from region to region.

Sadly, the health consequences for both men and women working in this sector have received little attention internationally; this, in turn, has led to a glaring gap in our understanding of the processes that could pose a risk to the health of these poor families, including children. There is evidence that women's income from working in the informal sector does not necessarily translate into better health for their children—in fact, the mortality risk for their offspring may increase.^{5,6}

The increasing migration of women from rural areas has been accompanied by diverse configurations of families and households.⁷ A number of publications have emphasized the critical role of households in health and health care.⁸ The household has been identified as the most critical level at which the health status of individuals and groups is determined, and the capacity of the household to respond to the needs of its members has been stated to have a greater influence on health and well-being than the actions of governments.⁹

While human society since time immemorial has organized itself into groups such as families and clans to cope with a complex economic, physical, psychological, and social environment, there has been considerable argument as to what constitutes a household. Generally, households are regarded as a response to economic, social, and technological change, which is reflected in the diversity of their composition.⁸ The complexity of household formation has led to the suggestion that a household unit is difficult, if not impossible, to define. It is well known that the conventional family types have undergone constant evolution; this also has been portrayed by the changing composition of households—the ultimate functional economic and social units. Given these difficulties, researchers have

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analyzed the household in terms of residence, shared meals, and the household economy.

Significant factors that shape the configuration of households are migration and urbanization. A major impetus to the process of urbanization is the prospect of better incomes in the city. This has caused an increase in migration of women to cities, where they form part of a vulnerable group open to exploitation, harassment, and ill health.⁹⁻¹² On the assumption that the household is critical in determining the health of individuals and populations, the central question is whether or not the knowledge of the adaptive composition of households contributes to better understanding of the determinants of health.

This paper examines the relationship between household type and other variables and health status and health service utilization and postulates that these associations provide clues to the likelihood of ill health. The structure of the households of women street vendors in the city of Johannesburg, South Africa, is examined, and the general illness experience of the women and their children is related to certain sociodemographic variables such as age, education, income, economic independence, marital status, place of birth, and household composition. Health behaviors, represented by smoking and alcohol consumption, acute and chronic illness, and the use of health services, are also discussed.

METHODS

STUDY AREA AND STUDY POPULATION

The city of Johannesburg has two major areas in which informal trading takes place. These are the central business district and Hillbrow, a densely populated area of high-rise buildings.

For the study, access to the women was gained through the Hawkers Associations, with support sought prior to conducting the study. Qualitative interviews with key informants, both in the health services and the informal trading sectors, preceded the administration of a questionnaire. This was done to gain a better understanding of the health and health-related issues confronting women informal traders. Those interviewed included the head of the urbanization program of the Johannesburg City Council's Directorate of Health, Housing, and Urbanization; the officials of the Hawkers' Associations; and women working in the informal trading sector. The deeper understanding of the nature of the physical and social environment in which women traders operated in the city, as well as the problems perceived by the local health authorities, shaped the questionnaire.

The city was divided into 323 blocks in which informal sector trading took place. Six trained field-workers constructed a map of the location of women

street vendors in the city; this served as the sampling frame. Altogether, 1,306 women were trading in these city blocks at the time of the survey, which was conducted in May and June 1994, the winter season. The number is lower than that estimated in the warmer months, when traders can increase to more than twice this number. Using proportional cluster sampling, 136 city blocks were randomly selected, each block serving as a cluster, and all women in these clusters were interviewed. A total of 466 women were approached for an interview, of whom 44 either refused to participate or provided only partial interviews, giving a response proportion of just over 90%. Before the interviews could be conducted with the women, consent had to be obtained from the "block captains." These are men whose permission has to be sought before a woman is allowed to trade in that particular block of the city. They, in essence, were the custodians of the pavements of the inner city of Johannesburg.

A questionnaire containing closed-ended and open-ended questions was administered. Details of demography, reproductive health, acute illness, chronic illness, violence against women, occupational hazards, and utilization of health services were collected. This paper reports on the composition of the households from which the women came, their general illness experience, and the illness experience of their children.

RESULTS

The women were young: their median age was 29 years (mean 30.3 years). They were engaged in selling fruit, vegetables, sweets, clothes, and cigarettes. Half of the women had been selling in the streets for less than a year, 33% between 2 and 5 years, and 8% for longer than five years. Statistically, the length of time was significantly related to the age of the women.

HOUSEHOLD COMPOSITION

Households were defined as units of people occupying the same dwelling, cooking together, and/or contributing to the economy of the group. Four distinct household types were identified: nuclear households, defined as households composed of a woman and a man, with or without children, accounted for 32.7% of the households; extended households, composed of a woman, man, children, and other members of the family, made up 3.2% of all households; woman-headed households, consisting of a woman with or without children and no male partners, accounted for 15.5% of households; and households made up of combinations of family members, friends, and lodgers, referred to as "alliance" households, accounted for 48.7% of all households (Table I).

TABLE 1 Sociodemographic Features of the Sample, %

	Nuclear	Extended	Woman Headed	Alliance	Total
Age					
<19	5.4	15.4	1.6	10.3	7.5
20–29	43.1	30.8	37.1	49.2	44.7
30–39	34.6	23.1	30.6	33.8	33.2
40+	17	30.8	30.6	6.7	14.5
Education					
Primary	33.6	7.7	38.6	28.7	30
Secondary	59.2	76.9	52.6	59.6	60
None	5.6	15.4	7.0	9.0	8
Missing	1.6	0.0	1.8	2.7	2
Income					
<R200/week	73.1	76.9	74.2	82.1	77
R200+/week	26.9	23.1	25.8	17.9	23
<R1,200/month	83.8	84.6	83.9	89.2	86
R1,200+/month	16.2	15.4	16.1	10.8	14
Place of birth					
Johannesburg	30.8	46.2	33.9	17.9	26
Resident South African outside Johannesburg	54.6	46.2	48.4	66.2	59
Foreign born	14.6	7.7	17.7	15.9	15
Marital status					
Married	41.7	30.8	13.1	14.2	24
Single	51.2	69.2	62.3	78.4	67
Widowed	0.0	0.0	8.2	3.2	4
Divorced	2.4	0.0	13.1	2.6	3
Other	4.7	0.0	3.3	1.6	2

HOUSEHOLD COMPOSITION AND ASSOCIATED VARIABLES

The association between age and type of household in which the women lived was statistically significant. The proportions of women over the age of 40 living in nuclear households (17%) and alliance households (7%) were significantly different from those living in extended (31%) and women-headed (31%) households ($\chi^2 = 8.46$, $df = 1$, $p = .0036$). Alliance households had a significantly larger proportion of women under the age of 30 (60%) compared to woman-headed households (39%) ($\chi^2 = 7.37$, $df = 1$, $p = .0066$), while women living in nuclear households also tended to be young (49% under the age of 30). More than half of the South African women born outside Johannesburg lived in alliance households compared to 34% of those born in Johannesburg ($\chi^2 = 10.62$, $df = 1$, $p = .0011$), and women born in Johannesburg were more likely to live in nuclear, extended, and woman-headed households. Most foreign-born women lived in alliance households (50%). A large proportion of women living in extended

households (77%) had enjoyed secondary schooling, but this was not statistically different from the other households.

Marital status was reported as married, single, living together, divorced, widowed, or undisclosed. Women living in alliance households were most likely to be single (78%), while 62% of women living in woman-headed households were single. It was interesting that only 42% of women in nuclear households and 31% of women in extended households reported that they were married. Alliance households had the largest proportion of single women (78%), while woman-headed households had the largest proportion of divorced (13%) and widowed (8%) women. This relationship was not statistically significant, however.

Women living in alliance households reported the lowest incomes. Only 11% earned more than R1,200 per month, compared to 16% of the rest of the women (US \$1 = approximately 3.35 South African rands). This difference was not statistically significant.

HEALTH-RELATED BEHAVIOR

More than one-fifth of the women smoked, and women in alliance households were significantly more likely to smoke than women in other households ($\chi^2 = 17.1$, $df = 1$, $p = .00002$). Smoking was not related significantly to age, education, or income, although more women earning above R1,200 per month smoked than did those earning less than R1,200 per month.

Very few women (2.5%) reported using alcohol, and the young (<20 years), the old (>40 years), and women with primary education used no alcohol at all. Alcohol use was not related significantly to education, income, place of birth, or household type.

ACUTE ILLNESS

A quarter (25%) of the women reported having had an illness during the two weeks preceding the survey (Table II). Illnesses included influenza (64%), musculoskeletal problems (16%), gynecological problems (9%), headaches (6%), breast problems (2%), and ill-defined problems (3%). A significantly greater proportion (34%) of women living in woman-headed households reported an illness than did women living in extended families (7%) (Fisher's exact test $p = .04$). Acute illness was related to age. Women aged 30 and older were more likely to report having had an illness during the two weeks preceding the survey ($\chi^2 = 4.84$, $df = 1$, $p = .027$). Women with three or more previous pregnancies were significantly more likely to report an acute illness than were women with fewer pregnancies ($\chi^2 = 6.42$, $df = 1$, $p = .01$). However, a logistic regression model with age,

TABLE II Illness by Household Category, %

	Nuclear (n = 130)	Extended (n = 13)	Woman Headed (n = 62)	Alliance (n = 195)
Acute illness	26	8	34	23
Chronic illness	28	62	34	29
Utilization of health services (n = 36):				
received treatment	29	54	43	33
Reason for nontreatment				
Lack of money	27	0	0	7
No time	7	0	25	0
Self-treatment	40	100	75	53
Source of care (n = 231)				
Clinic	48	50	41	38
Hospital	21	30	28	24
Doctor	25	10	21	27
Traditional practitioner	1	10	3	2
Church	4	0	8	10

number of pregnancies, and income showed that age in fact was related inversely to reported acute illness, and that the number of pregnancies was not associated with an increased likelihood of acute illness (Table III).

The proportion of women over the age of 40 who reported a gynecological illness during the preceding fortnight was significantly greater than for those under the age of 40 ($\chi^2 = 5.2$, $df = 1$, $p = .024$). Multivariate analysis indicates that this was a function of age. All the women (8) who reported gynecological illness were born in a place other than Johannesburg, while all the women who reported musculoskeletal problems were born in South Africa. Women who were not self-employed were significantly more likely to complain of musculoskeletal problems ($\chi^2 = 7.8$, $df = 1$, $p = .005$).

CHRONIC ILLNESS

An illness during the preceding year was reported by 30.5% of the women. Of these, the proportion over the age of 40 who reported an illness was significantly greater than for those under 40 ($\chi^2 = 8.3$, $df = 1$, $p = .003$). A much larger proportion

TABLE III Logistic Regression: Acute Illness in Women

Term	Odds Ratio	95% CI
Age 30+ years (<30 years)	0.530	0.318, 0.884*
Income > R1,200/month (<R1,200/month)	1.46	0.668, 3.20
3+ Pregnancies (<3 pregnancies)	1.15	0.593, 2.21
Constant	3.86	2.68, 5.55

* p value < .05.

(61.5%) of women living in extended households reported illness during the preceding year ($\chi^2 = 3.89$, $df = 1$, $p = .04$). A smaller proportion of women with secondary education reported chronic illness. However, a multiple logistic regression model with age, education, household type, and income as independent variables showed that being over 40 and living in an extended household was inversely related to reported chronic illness (Table IV).

The nature of the complaints included influenza (37%), gynecological problems (20%), headaches (10%), gastrointestinal problems (9%), musculoskeletal disorders (6%), pregnancy-related disorders (6%), ocular problems (3%), and ill-defined conditions (9%). A greater proportion of women living in alliance households (26%) and woman-headed households (24%) reported gynecological problems than did those living in nuclear households (14%) and extended households (0%), but this difference was not statistically significant ($\chi^2 = 1.5$, $df = 1$, $p = .21$). In contrast, a significantly larger proportion of women living in nuclear and extended households reported ill-defined conditions (Fisher's exact test $p = .001$). Women living in extended households also reported more ocular problems (17%) than the rest, but the difference was not statistically significant.

All the women who complained of headaches were born outside Johannesburg.

HEALTH SERVICES UTILIZATION

More than a third (34%) of the women at some stage had sought treatment for illnesses. In most cases, the women attended a clinic (25%), a hospital (15%), or a doctor (14%), while 7% sought relief through faith healing (church), and 3% consulted a traditional practitioner. A larger proportion of women in extended households (54%) sought treatment for their illnesses than did women in nuclear (29%), woman-headed (43%), and alliance (33%) households, but the difference was not statistically significant ($\chi^2 = 0.006$, $df = 1$, $p = .9$). Women over the age of 40 were more likely to have sought treatment for illness than the rest ($\chi^2 = 3.66$, $df = 1$, $p = .055$).

TABLE IV Logistic Regression Chronic Illness in Women

Term	Odds Ratio	95% CI
Age 40+ years (<40 years)	0.476	0.242, 0.937*
Secondary education (no secondary education)	1.39	0.862, 2.25
Extended households (nuclear household)	0.283	0.083, 0.954*
Woman-headed household (nuclear household)	0.994	0.480, 2.06
Alliance household (nuclear household)	0.960	0.565, 1.63
Constant	2.11	1.27, 3.52

* p value < 0.05.

The reasons given for not seeking treatment were mainly that the women treated their own illnesses, were not sufficiently ill, and had no money or time to seek treatment. Only 16% of women living in woman-headed households could afford to pay more than R60 for health care, compared to 22% in other households; 87% of women living in woman-headed households would pay for their own health care, compared to 67% of the women in other households ($\chi^2 = 9.4$, $df = 1$, $p = 0.002$).

CHILD HEALTH

A substantial proportion (28.6%) of the women had no children, and most of the rest had more than 3 children, with an average of 2.8 children per woman. Most of the children were under the age of 5 years. Of the women, 14% reported illness in their children during the 2-week period before the survey. Women between the ages of 20 and 29 were significantly more likely to have had an ill child during the 2 weeks preceding the survey ($\chi^2 = 5.66$, $df = 1$, $p = .017$).

Bivariate analysis shows that women who had secondary education were more likely to report an acute illness in their offspring than the rest ($\chi^2 = 6.34$, $df = 1$, $p = .011$). However, a multiple logistic regression model with age, education, income, number of pregnancies, and household type as independent variables showed that women with secondary education were significantly less likely to report acute illness in their offspring, while women over the age of 30 were twice as likely to report illness in their children than the rest (Table V). The model also demonstrated that women with more than R1,200 per month income and more than two pregnancies were significantly less likely to report illness in their children (Table V).

Most of the children (74%) were under the age of 5; 56% suffered from respiratory problems; 21% from gastrointestinal problems; 10% from ear, nose, and throat problems; and 6% from skin problems. Also, 6% suffered from stress and headaches, and 2% had kidney problems. Two women reported that a

TABLE V Logistic Regression Acute Childhood Illness

Term	Odds Ratio	95% CI
30+ years (<30 years)	2.34	1.08, 5.05*
Secondary education (no secondary education)	0.393	0.189, 0.817*
2+ pregnancies (<2 pregnancies)	0.503	0.231, 1.09†
R1,200+/month (<R1,200/month)	0.415	0.175, 0.984*
Constant	6.37	3.03, 13.4*

* p value < .05.

† p value ≤ .10.

second child had been ill during the preceding two weeks. One had a respiratory condition, and the other had a gastrointestinal problem. Only 12% of the women sought treatment for their ill children; a smaller proportion of women living in alliance households sought health care for their sick children than did women in other households ($\chi^2 = 3.68$, $df = 1$, $p = .055$), but the difference was of marginal significance.

In addition, 18.6% of the women reported that they had children who had been ill during the year preceding the survey. These children also were mainly under the age of 5 (70%) and suffered mainly from upper respiratory infections (29); skin rashes (12); oral or ear, nose, and throat problems (13); and chest problems (3). Three of the women reported that a second child had been ill during the preceding year; these children suffered from upper respiratory problems (2) and tonsillar disease (1). Treatment was sought for these illnesses by 17% of the women. Of these, 46% took the child to a clinic and 10% to a hospital, 10% consulted a doctor, and 1% consulted a traditional practitioner.

DISCUSSION

The youthfulness of the women reflects the limited job opportunities for school leavers in South Africa, and, while most women would prefer stable employment, the number engaged in street vending is increasing steadily. However, their incomes are meager; the hours are long. Many women work for someone else, usually a man, and they often are subject to exploitation.

HOUSEHOLD COMPOSITION

The composition of the households in which women street vendors live is very different from that found in the general community. A striking feature of the composition of the households from which the women come is the large proportion of alliance households: twice that found in a study of a general urban community, where alliance households accounted for 25% of all households.⁷ It is reasonable to propose that this household formation provides the support system for these women. The fact that women who are foreign born are more likely to live in these alliances supports the hypothesis that this household type provides social support for women, often illegal immigrants, who trade in the streets of Johannesburg. Similarly, very few women street vendors live in extended-family households. This is very different from the findings of workers in rural Honduras, where women in the informal sector were likely to be part of a female-headed household, free conjugal arrangement, or extended family.¹³ It is likely that, in the Johannesburg study, living in alliance households is a

function of mobility as the women are younger, more mobile, and mostly not born in Johannesburg.

An important predictor of the household type in which women find themselves is age. Older women tend to live in extended and woman-headed households, while younger women live in alliance households. Women in woman-headed households not only are older, but also tend to be divorced and widowed, which is not surprising. However, this relationship was not significant statistically, and women live in these households not only because they are divorced or widowed, but also many choose to live unencumbered by a male partner. This phenomenon has been found in other studies in which women choose not to marry in order to escape male domination (V. Van der Vliet, *Traditional husbands, modern wives? Constructing marriages in a South African township*, University of Cape Town, 1989, unpublished).

HEALTH BEHAVIOR

The smoking rate in these women (21%) is twice the rate found in the general population of comparable women in both the country as a whole and the province of Gauteng, in which Johannesburg is located,¹⁴ and probably reflects increasing smoking rates in the younger, more-independent women. Again, women in alliance households are more likely to smoke. This is compatible with them being young, educated, and less traditional. Women living in these households, therefore, are more likely to suffer from the adverse health effects of tobacco than others; information, education, and communication programs should take account of the household as a marker for risk in women street vendors. The use of alcohol clearly is not as yet a major problem in these women.

ACUTE ILLNESS

The proportion of women reporting illness over the two weeks preceding the survey was greater than that found in Khayelitsha, South Africa.¹⁵ However, this could be a function of the season. The Khayelitsha study was conducted during the summer months, while this study was conducted during winter, a time when many of the women complained of influenza. It is worth noting that reported illness rates are very variable and have ranged from 54.5% in female household heads in rural Ethiopia over a two-week recall period to 23% in women in Mali over a six-month period.^{16,17} Besides influenza, musculoskeletal problems were the most frequently reported affliction and are associated with the nature of the work, which involves much carrying and lifting of heavy weights while setting up stalls and moving goods to and from the streets. Women who are employed

by others reported significantly more musculoskeletal problems than the rest, and, while it cannot be stated without equivocation, it suggests that these women may be more exploited. Gynecological problems affected almost 1 in 10 of the women vendors, which is lower than the 17% found in the Khayelitsha study. However, the recall period in that study was three months, and the prevalence in this group of street vendors conceivably may be higher than that found in Khayelitsha. The relationship between age and gynecological illness lends support to the contention that older women who engage in street vending tend to be those with lower fertility rates as a result of tubal occlusion (W. M. Pick, Y. Dada, and M. H. Ross, *The reproductive health of women street vendors in Johannesburg, South Africa*, unpublished).

CHRONIC ILLNESS

The proportion of women who reported illness over a one-year recall period was much greater than the 4.4% reported in Khayelitsha in 1990.¹⁵ Older women living in extended households appear to have some protection against chronic illness. The exact mechanism is not clear, but, given that a large proportion of the women reported gynecological problems, it makes sense to assume that women in these households and at this age are unlikely to complain of these problems. Women who lived in extended households appear to have better access to health care.

The illnesses reported did not include chronic conditions such as hypertension, diabetes, tuberculosis, or heart disease, which reflects a "healthy worker effect"—street vendors are self-selected women who do not suffer from these diseases. Of course, it is possible that these conditions merely were not reported, but it seems unlikely given the freedom with which other conditions were reported. Gynecological problems were reported by 20% of women; this points to the need for interventions to reduce gynecological disease, much of which is likely to be infection. Women in alliance and woman-headed households are at particular risk as they are also the least likely to seek health care when ill (see below).

HEALTH SERVICES UTILIZATION

The proportion of the women (34%) who sought treatment for their illnesses is comparatively high, and the fact that they mainly sought treatment at clinics suggests either that the illnesses were relatively minor or that they had easier access to clinics. A substantial proportion (14%) sought care from private doctors; the use of faith healing (4%) is different from that found in Khayelitsha. The presence of a large number of syncretic churches in Johannesburg may explain this phenomenon.¹⁸ The older, more mature women were more likely to seek

health care, which may reflect their greater independence or greater awareness of disease. The small proportion of women who reported attending a traditional practitioner is similar to that found in Khayelitsha and may not be due simply to under-reporting. It is likely that women in urban areas, and especially those in the informal sector, a high proportion of whom have secondary schooling, are less likely to seek care from traditional practitioners. In contrast, a higher proportion (10%) of women living in extended, and therefore more traditional, households consulted traditional practitioners. This is contrary to the stereotypical view that African women routinely consult traditional practitioners when sick. Women in woman-headed households gave lack of time as the reason for not seeking health care, a finding that emphasizes their vulnerability as sole income earners and that may have detrimental consequences for their health. They are also almost entirely dependent on their own incomes to pay for health care, highlighting their total dependence on the informal sector for access to care.

CHILD HEALTH

The proportion of children reported to have had an illness varies enormously in different surveys. In Matlab, Bangladesh, 60% of well-nourished children aged between 2 and 5 were reported to have had an illness during the preceding week; in Colombia, between 44% and 53% of mothers reported some illness in their children during the preceding month; in Mali, an illness rate of 27% during a period of six months was recorded in children aged 0 to 4.^{17,19,20} The predominance of respiratory and intestinal infection is typical of the country. The "protective effect" of education against reported child morbidity once again is found in this study. However, as indicated by Caldwell, Levine, and others, the relationship between education and child morbidity and mortality is a complex one, and the information gathered in this study does not lend itself to more-detailed analysis.²¹⁻²³

The strong relationship between reported illness in children and maternal age, even after controlling for education, number of pregnancies, and income, is interesting. It is possible that older women are more prepared to report illness in children than younger mothers, a finding contrary to that reported for Cali, Colombia, in 1987.²⁰ It also is possible that older women, as a result of experience, were more responsive to illness in their children. Whatever the explanation, the association bears further investigation. Women with higher incomes were less likely to report child illness, which reflects that even in this sector, there are differences in child health risk in different socioeconomic categories.

Remarkably few women sought care for their sick children, and when they

did, most attended a clinic or a hospital. Few women consulted a private doctor, probably because of the costs involved, and a surprisingly small proportion consulted a traditional healer. The low utilization of health services may be a result of the inaccessibility of health services, but also may reflect the women's inability to take time off from their income-generating activities to visit health service providers.

WHAT DOES ALL THIS MEAN?

Women street vendors in Johannesburg have adapted to an uncertain existence by living in loose alliances, which provide them with social support. In a sense, one can call these households the informal sector of households in South African cities. The implications of this adaptive strategy for health is not entirely clear, but the evidence suggests that young, foreign-born women living in these households earn less money than the rest and are least likely to seek health care when ill. It also is evident that the small proportion of street-vending women who live in extended households are at less risk of ill health than the rest. It is important that health service providers respond to the peculiar health needs of street vendors. It is equally important to be aware that they are not a homogeneous group, but that they live in differing household types, which provide clues to street vendors at greatest health risk.

The level of education of the women reflects the lack of job opportunities for young, educated women, who resort to street trading to survive. This sorry situation reflects the poor economy that the new South African government has inherited. After years of negative economic growth, the South African economy grew by an estimated 3% in 1995. This might translate into more jobs for young school leavers, but it will take some time before the effect will be seen. The harsh reality is that a large proportion of people that are employed in South Africa find themselves in the informal sector. A health policy in South Africa that continues to ignore the plight of informal sector workers will be deficient and, by its very nature, prejudicial to this important sector of the workforce. A serious effort to address the health and health care needs of these workers and their dependents should be addressed by local, provincial, and national governments. Informal sector organizations, such as Hawkers Associations, need to inform their members about sources of health care; they can serve as useful conduits for health care providers to meet the needs of these vulnerable women. Inner-city health service providers should mount special efforts to reach the women who have become, and will continue to be, an integral part of the fabric of urban life, not only in Johannesburg, but also in all our major cities.

REFERENCES

1. De Soto H. *The Other Path. The Invisible Revolution in the Third World*. New York: Harper and Row; 1990.
2. Sreeramamurty, K. Urban Labour in Informal Sector: a Case Study of Visakhapatnam City. Delhi: B. R. Publishing; 1986:37.
3. Hart K. Informal income opportunities and urban employment in Ghana. *J Modern Afr Stud*. 1973;11(1):62-89.
4. Kirsten MA. Quantitative assessment of the informal sector. In: Preston-Whyte E, Rogerson C, eds. *South Africa's Informal Economy*. Cape Town: Oxford University Press; 1991:155.
5. Pickering H, Hayes RJ, Ng'andu N, Smith PG. Social and environmental factors associated with the risk of child mortality in a peri-urban community in the Gambia. *Trans Royal Soc Trop Med Hyg*. 1986;80:311-316.
6. Rawson I, Valverde V. The etiology of malnutrition among preschool children in rural Costa Rica. *J Trop Pediatr*. 1976;22:12-17.
7. Pick WM, Makhlouf-Obermeyer C. Urbanization, household composition and the reproductive health of women in a South African city. *Soc Sci Med*. 1996;43(10):1431-1441.
8. World Development Report 1993. *Investing in Health*. New York: Oxford University Press; 1993.
9. *Development in Practice. Better Health in Africa. Experience and Lessons Learned*. Washington, DC: The World Bank; 1994.
10. Murray C. Migrant labour and changing family structure in the rural periphery of Southern Africa. *J South Afr Stud*. 1980;6(2):139-156.
11. Morokvasic M. Birds of passage are also women. . . ., *Int Migration Rev* 1984;18(4): 886-907.
12. Shah NM, Smith PC. Migrant women at work in Asia. In: Fawcett JT, Khoo S, Smith PC, eds. *Women in the Cities of Asia: Migration and Urban Adaptation*. Boulder, Colo: Westview Press; 1984.
13. Danes SM, Winter M, Whiteford MB. Level of living and participation in the informal market sector among rural Honduran women. *J Marriage Fam*. 1987;49:631-639.
14. Reddy P, Meyer-Weitz A, Yach D. Smoking status, knowledge of health effects and attitudes towards tobacco control in South Africa. *South Afr Med J*. 1996;86(11):1389-1393.
15. Cooper D, Pick WM, Myers JE, Hoffman MN, Sayed AR, Klopper JML. Urbanization and women's health in Khayelitsha—demographic and socio-economic profile. *South Afr Med J*. 1991;79:423-427.
16. Shiferaw T. Illness burden and use of health services in a rural community, southwestern Ethiopia. *East Afr Med J*. 1993;70(11):717-720.
17. Coppo P, Pisani L, Keita A. Perceived morbidity and health behavior in a Dogon community. *Soc Sci Med*. 1992;34(11):1227-1235.
18. West M. *African Independent Churches in Soweto*. University of Cape Town; 1972.
19. Bhuiya A, Zimicki S, D'souza S. Socioeconomic differentials in child nutrition and morbidity in a rural area of Bangladesh. *J Trop Pediatr*. 1986;32:17-23.
20. Selwyn BD. Family size, illness and use of medical services among preschool Colombian children. *J Trop Pediatr*. 1987;33:16-23.
21. Caldwell JC. Education as a factor in mortality decline. An examination of the Nigerian data. *Popul Stud*. 1979;33(3):395-413.
22. Caldwell JC. Routes to low mortality in poor countries. *Popul Dev Rev*. 1986;12:171-214.
23. Levine RA, Levine SE, Richman A, Tapia Uribe FM, Correa CS. Schooling and survival: the impact of maternal education on health and reproduction in the Third World. In: Chen L, Kleinman A, Ware NC, eds. *Health and Social Change in International Perspective*. Boston, Mass: Harvard University Press; 1994:303-338.